



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: G40-C085
Plant ID No.: 777-00144
Applicant: Alley Trucking LLC
Facility Name: Logan County Plant
Location: Sharples, Logan County
SIC Code: 1422 (Crushed and Broken Limestone)
Application Type: Construction
Received Date: January 05, 2017
Engineer Assigned: Thornton E. Martin Jr.
Fee Amount: \$1,500
Date Received: January 09, 2017
Complete Date: February 08, 2017
Applicant Ad Date: January 10, 2017
Newspaper: *Logan Banner*
UTM's: Site 1 - Easting: 404.51717 km Northing: 4178.30060 km Zone: 17
Site 2 - Easting: 430.41396 km Northing: 4193.32918 km Zone: 17
Description: Applicant proposes to construct and operate a portable crushing/screening plant for two locations in Logan County.

PROCESS DESCRIPTION

Rock from adjacent overburden areas will be transferred to BS-01 (PW) by front end loader @ TP-01 (UD-PW); go to belt conveyor BC-01 (N) @ TP-02 (TC-PE); and transfer to screen SS-01 (PW) @ TP-03 (TC-PW). The screen will discharge material by size to two separate stockpiles OS-01 (SW-WS) and OS-02 (SW-WS) via belt conveyors BC-02 (N) and BC-03 (N) @ TP-04 (TC-FE) thru TP-08 (TC-MDH). The screen will transfer to belt conveyor BC-04 (N) @ TP-10 (TC-FE) and feed bin BS-02 (PW) @ TP-11 (TC-PW). From BS-02, material will transfer to BC-05 (N) @ TP-12 (TC-PE) to the crusher CR-01 (FE) @ TP-13 (TC-FE). The material will be crushed and discharged to stockpiles OS-03 (SW-WS), OS-04 (SW-WS) and OS-05 (SW-WS) according to size via belt conveyors BC-06 (N), BC-07 (N) and BC-08 (N) @ TP-14 (TC-FE) thru TP-21 (LO-MDH). Material will be loaded to truck for distribution on mine site at TP-06 (LO-MDH), TP-09 (LO-MDH), TP-16 (LO-MDH) and TP-22 (LO-MDH).

Alley Trucking owns the J-1160 Crusher and is trying to negotiate a contract for the Powerscreen at this time. It will be assumed that the screening unit will utilize a Scania Y9X Diesel Engine, Tier 4F Certified engine (like the J-1160 Crusher) since there was no engine detail provided by the Applicant for the screen. The Applicant is aware that a Class II modification to the permit will be required if the engine is a different year make and model once the screen is received.

Initially, the portable crushing/screening plant will be located in Holden, Logan County, WV for contract work for surface mine property owner (Coal Mac). The second site will be located in Sharples, Logan County, WV for contract work for surface mine property owner (Mingo Logan Coal).

Company officials have agreed to install a portable water spray system to control fugitive emissions as required by the General Permit Program.

The facility shall be constructed and operated in accordance with the following equipment and control device information taken from registration application G40-C085:

Table 1: Equipment Summary

Equipment ID No.	Date of Manufacture	Description	Maximum Capacity		Control Equipment ¹
			TPH	TPY	
BS-01	2014	10 Ton Storage Bin - receives rock from overburden area via end loader	----	640,000	PW
BC-01	2014	Belt Conveyor - receives rock from bin BS-01 and transfers to screen SS-01	400	640,000	N
SS-01	2014	Double Deck Screen - receives rock from belt conveyor BC-01. Sized rock drops to Belt conveyors BC-02, BC-03 or BC-04	400	3,504,000	PW
BC-02	2014	Belt Conveyor - receives rock from screen SS-01 and transfers to open stockpile OS-01	400	640,000	N
OS-01	----	5,000 ton Open Stockpile - receives -2X0 rock from belt conveyor BC-02	----	640,000	SW-WS
BC-03	2014	Belt Conveyor - receives rock from screen SS-01 and transfers to open stockpile OS-02	400	640,000	N
OS-02	----	5,000 ton Open Stockpile - receives 2X0 rock from belt conveyor BC-03	----	640,000	SW-WS
BC-04	2014	Belt Conveyor - receives rock +3 from screen SS-01 and transfers to bin BS-02	400	640,000	N
BS-02	2014	Storage Bin - receives rock +3 from belt conveyor BC-04 and transfers to belt conveyor BC-05	----	640,000	PW
BC-05	2014	Belt Conveyor - receives rock +3 from bin BS-02 and transfers to crusher CR-01	400	640,000	N
CR-01	2014	Jaw Crusher - receives rock from BS-02, crushes material dropping onto three separate product conveyors BC-06, BC-07 and BC-08	400	640,000	FW
BC-06	2014	Belt Conveyor - receives rock -2X0 from crusher CR-01 and transfers to open stockpile OS-03	400	640,000	N
OS-03	----	5,000 ton Open Stockpile - receives -2X0 rock from belt conveyor BC-06	----	640,000	SW-WS
BC-07	2014	Belt Conveyor - receives rock from crusher CR-01 and transfers to open stockpile OS-04	400	640,000	N
OS-04	----	5,000 ton Open Stockpile - receives 2X0 rock from belt conveyor BC-07	----	640,000	SW-WS

Equipment ID No.	Date of Manufacture	Description	Maximum Capacity		Control Equipment ¹
			TPH	TPY	
BC-08	2014	Belt Conveyor - receives rock from crusher CR-01 and transfers to open stockpile OS-05	400	640,000	N
OS-05	----	5,000 ton Open Stockpile - receives 3X0 rock from belt conveyor BC-08	----	640,000	SW-WS
E-1	2014	Scania Y9X Diesel Engine, Tier 4F Certified	275 bhp/1,800 rpm		N
E-2	2014	Scania Y9X Diesel Engine, Tier 4F Certified	275 bhp/1,800 rpm		N
T-1	2017	Diesel Tank, 1,000 gallon volume	8,000 gal/yr		N

¹ PW - Partial Enclosure w/water spray; SW-WS - Water Sprays; N - None

DESCRIPTION OF FUGITIVE EMISSIONS

Potential sources of fugitive emissions for this facility include emissions, which are not captured by pollution control equipment and emissions from open stockpiles and vehicular traffic on unpaved haulroads and work areas. The haulroads and work areas will be controlled by water truck. The water truck will be operated three times daily and more as needed in dry periods.

An additive to prevent freezing will be utilized in the winter months when freezing conditions are present. New course gravel base material will be added to unpaved haulroads as needed.

SITE INSPECTION

Alley Trucking has contracts with surface mine property owners Coal Mac and Mingo Logan Coal. The proposed sites are situated within the surface mine boundaries, therefore, a site inspection was not deemed necessary at this time in conjunction with this permitting action.

Directions: **Site 1** - From Logan, proceed on US119S to 22 Mountain Road, continue over mountain along tracks to entrance of surface mine. Guard shack is on the right hand side of Pine Creek Road.

Site 2 - From Logan, take Route 17 North towards Sharples, WV. Go past Mingo Logan Prep Plant and continue on Route 17 to entrance to Spruce Surface Area, guard shack is on the left.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Fugitive emission calculations for continuous and batch drop operations, transfer points, crushing and screening, storage piles, and paved and unpaved haul roads are based on AP-42 "Compilation of Air Pollution Emission Factors." Control efficiencies were applied based on the Reference Document for General Permit G40-C. The estimated emission calculations were performed by the applicant's consultant using the General Permit G40-C Excel emission calculation spreadsheet.

The engine emissions included in the application were found to be overstated, as the calculations

were based on AP-42 emission factors instead of Manufacturers Data or EPA's Certificate of Conformity.

A Certificate of Conformity exists for the 2014 Scania Y9X (Certificate Number EY9XL09.3DAA-001-R01) as found on EPA's website:

<https://www.epa.gov/compliance-and-fuel-economy-data/engine-certification-data>

The proposed construction and operation will result in the estimated potential to discharge controlled emissions of 48.7 TPY of PM (particulate matter) and 10.96 TPY of PM₁₀ (particulate matter less than 10 microns). As mentioned in the previous paragraphs, the engine emissions were overstated using AP-42 emissions factors. Estimated emissions based on the Tier 4F standard for two 2014 Scania Y9X engines are 2.50 TPY of CO (Carbon Monoxide), 0.28 TPY of NO_x (Nitrogen Oxides), 0.12 TPY of VOC (Volatile Organic Compounds) and 0.02 TPY of PM₁₀ combined. Refer to the following tables for a complete summary of the proposed facility's emissions:

Table 2: Emissions Summary (*less Engine*)

Emissions Summary - Alley Trucking, LLC Logan County Plant	Controlled PM Emissions		Controlled PM₁₀ Emissions	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Stockpile Emissions	0.14	0.62	0.07	0.29
Unpaved Haulroad Emissions	57.51	46.01	12.10	9.68
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
Fugitive Emissions Total	<i>57.65</i>	<i>46.63</i>	<i>12.17</i>	<i>9.97</i>
Point Source Emissions				
Equipment Emissions	2.55	2.04	1.21	0.97
Transfer Point Emissions	0.04	0.04	0.02	0.02
Point Source Emissions Total	<i>2.59</i>	<i>2.07</i>	<i>1.24</i>	<i>0.99</i>
FACILITY EMISSIONS TOTAL				
	60.24	48.70	13.41	10.96

Table 3: Engine Emissions (Tier 4F)

Source	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tons/yr)
E-1 & E-2	Carbon Monoxide	3.12	2.50
	Nitrogen Oxides	0.36	0.28
	Volatile Organic Compounds	0.16	0.12
	Sulfur Dioxide	1.12	0.90
	PM ₁₀	0.02	0.02
	Formaldehyde	0.0044	0.0038

REGULATORY APPLICABILITY

PSD has no applicability to the proposed facility. The proposed construction and operation of a portable crusher/screening plant is subject to the following state and federal rules:

45CSR7 To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations

The facility is subject to the requirements of 45CSR7 because it meets the definition of “Manufacturing Process” found in subsection 45CSR7.2.20. The facility should be in compliance with Subsection 3.1 (no greater than 20% opacity), Subsection 3.7 (no visible emissions from any storage structure pursuant to subsection 5.1 which is required to have a full enclosure and be equipped with a control device), Subsection 4.1 (PM emissions shall not exceed those allowed under Table 45-7A), Subsection 5.1 (manufacturing process and storage structures must be equipped with a system to minimize emissions), Subsection 5.2 (minimize PM emissions from haulroads and plant premises) when the particulate matter control methods and devices proposed within application G40-C085 are in operation.

According to Table 45-7A, for a type ‘a’ source with a maximum process weight rate of 800,000 lb/hour, the maximum allowable emission rate is 50 lb/hour of particulate matter. The maximum emission rate is 2.59 lb/hour of particulate matter according to calculated emissions in fact sheet G40-C085.

45CSR13 Permits for Construction, Modification, Construction and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation

The proposed construction is subject to the requirements of 45CSR13 because it has the potential to discharge greater than 6 pph (pounds per hour) and 10 tpy (tons per year) of a regulated air pollutant based on 1,600 hours of operation. The applicant has applied for a G40-C registration to construct, submitted the proper \$1,500 application fee and published a Class I legal advertisement in the *Logan Banner* on January 10, 2017.

45CSR16 Standards of Performance for New Stationary Sources
40 CFR 60 Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants

The proposed construction is subject to 40 CFR 60 Subpart OOO because it will occur after April 22, 2008 and the plant processes more than 150 tons of rock per hour. The proposed construction will include one (1) screen, one (1) jaw crusher and five (5) belt conveyors, which are defined as affected facilities in 40 CFR 60 Subpart OOO. Therefore, the proposed construction is subject to 45CSR16, which incorporates by reference 40 CFR 60 Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. The facility should be in compliance with 60.672 (b) no greater than 7% opacity from any transfer point on belt conveyors or from any other affected facility (as defined in 60.670 and 60.671) and no greater than 12% opacity from any crusher when the particulate matter control methods and devices proposed within application G40-C085 are in operation.

45CSR30 Requirements for Operating Permits

In accordance with 45CSR30 Major Source Determination, the portable crushing facility will be a non-major source which is subject to NSPS Subpart OOO. The facility's potential to emit will be 1.01 TPY of a regulated air pollutant (PM₁₀), not including fugitive emissions, which is less than the 45CSR30 threshold of 100 TPY. Therefore, the facility will be subject to 45CSR30 and classified as a Title V deferred non-major source.

45CFR60 Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Alley Trucking, LLC is subject to this subpart because the engines were manufactured after April 1, 2006. The engine emissions for E-1 and E-2 are EPA Tier 4F Certified.

40CFR63 Subpart ZZZZ—National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Alley Trucking LLC is subject to 40CFR63 Subpart ZZZZ, because E-1 and E-2 are considered a new area source of HAP's since they will be constructed on or after June 12, 2006, however, the only requirements that apply are those required under 45CFR60 Subpart IIII.

The proposed construction of Alley Trucking, LLC's portable crushing/screening facility is not subject to the following state and federal rules:

45CSR14 Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration

The facility will have the potential to emit 2.09 TPY of a regulated air pollutant (PM), not including fugitive emissions, which is less than the 45CSR14 threshold of 250 TPY. This facility is not listed in Table 2, and so fugitive emissions are not included when determining source applicability. Therefore, the proposed construction is not subject to the requirements set forth within 45CSR14.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

Various VOC/non-criteria regulated pollutants are emitted from the incomplete combustion of diesel fuel. These emissions, however, are generally small and do not adversely impact the quality of the surrounding ambient air.

AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the size and location of this facility and the limit of the proposed construction. This facility will be located in Logan County, WV, which is currently designated as attainment for PM_{2.5} (particulate matter less than 2.5 microns in diameter).

GENERAL PERMIT ELIGIBILITY

The proposed construction of this facility meets the applicability criteria (Section 2.3), siting criteria (Section 3.1) and limitations and standards (Section 5.1) as specified in General Permit G40-C.

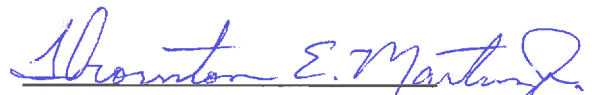
MONITORING OF OPERATIONS

G40-C registrants will be required to perform the following monitoring and recordkeeping:

1. Monitor and record daily and monthly records of the amount of nonmetallic minerals processed.
2. Monitor and record calendar monthly and calendar annual quantity of fuel consumed and hours of operation for all engines and combustion sources.
3. Monitor and record calendar annual quantity of organic liquid throughput in all registered storage tanks.
4. Conduct visual observations of all points listed in the registration that are subject to opacity limits.
5. Conduct annual preventative maintenance/inspection, and all routine maintenance service and repairs as required, to facilitate proper control device performance, for the control devices listed in the registration.
6. Perform are applicable required monitoring, recordkeeping, reporting and testing that is required under 40CFR60 Subparts OOO, IIII, and JJJJ.
7. These records shall be maintained on-site for a minimum of five (5) years from the date of record creation and shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

RECOMMENDATION TO DIRECTOR

The information contained in this construction application indicates that compliance with all applicable regulations should be achieved when all proposed particulate matter control methods are in operation. Due to the location, nature of the process, and control methods proposed, adverse impacts on the surrounding area should be minimized. No public comments were received. Therefore, the granting of a G40-C registration to Alley Trucking LLC for the construction and operation of a portable crusher and screening facility located at either of two locations, in Logan County, WV is hereby recommended.



Thornton E. Martin Jr.,
Permit Engineer

February 21, 2017

Date